IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/552,985
Filed: April 21, 2000
Inventors:
Sai V. Allavarpu
Rajeev Angal
Gihan R. Karunaratne
Mark B. McCall

Title: CORBA Metadata Gateway to Telecommunications Management Network

Examiner: Dinh, Khanh Q.
Group/Art Unit: 2151
Atty. Dkt. No: 5181-46200

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below.

Robert C. Kowert
Name of Registered Representative

Signature

July 18, 2006
Date

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicants request review of the rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a notice of appeal. The review is requested for the reasons stated below.

Claims 1-31 remain pending in the application. Reconsideration of the present case is earnestly requested in light of the following remarks. Please note that for brevity, only the primary arguments directed to the independent claims are presented, and that additional arguments, e.g., directed to the subject matter of the dependent claims, will be presented if and when the case proceeds to Appeal.

The Examiner rejected claims 1-5, 7-12, 14 and 17-31 under 35 U.S.C. § 102(e) as being anticipated by Carre (U.S. Patent 6,282,579). Applicants respectfully traverse this rejection for at least the reasons below.

Regarding claim 1, Carre fails to disclose a client *generating* a *request* for type information for an attribute or event, contrary to the Examiner's contention. Carre pertains to address conversion between CORBA objects and OSI objects (Carre - col. 1, lines 9-19; col. 1, line 59 - col. 2, line 46) and to the transforming of object interfaces column 5, lines 49-59). The Examiner cites the Abstract, FIG. 2A, 2B, as well as column 3, lines 18-55 and column 5, lines 4-38 of Carre. However, Carre does not mention anything about a client generating a request for type information, either at the Examiner's cited passages or elsewhere. In order to permit address interaction between objects that use different addressing modes, Carre's system converts an address type with an address value according to one addressing mode to a corresponding type of another specification language or addressing mode. (Carre, column 1, line 59 - column 2, line 6; column 2, lines 11-14; lines 25-28; and lines 34- 39). Thus, Carre is concerned with *converting address types and object interfaces*, but fails to teach anything regarding *a client generating a request for type information*. Converting address types and object interfaces does not disclose a client *generating* a *request* for type information.

Carre teaches that client objects request services provided by service objects. Carre further teaches that a client object sends a request message to a service object that contains an operation, a target object, one or more parameters, and, optionally, a request context (Carre, column 3, lines 47-53). Carre also teaches that Object Request Brokers (ORBs) use a Remote Procedure Call (RPC) mechanism to route request messages to the target object (Carre, column 4, lines 1-6). In order to allow objects defined using different specifications, such as ASN.1 and IDL, to communicate Carre teaches that the objects and addresses are converted between the two standards. However, Carre does not mention anything regarding a client generating a request for type information for an attribute or event. The clients in Carre's system do not request type information, but instead request a specific service from a particular server object and Carre's system automatically makes any conversions between different object specification languages necessarily to allow the client and server object to communicate. Thus, there is no need in Carre's system for a client to generate a request for type information for an attribute or event. In fact, the purpose of Carre's teachings appears to be to perform the address type conversion for the client so that the client does not have to modify it's own interface in order to communicate with an object employing a different addressing mode. *See, e.g.*, col. 1, line 43 – col. 2, line 6. **Therefore, Carre actually teaches away from *a client generating a request for type information* for an attribute or event.**

In the Response to Arguments, the Examiner repeats the previous arguments and citations. However, as noted above, Carre's requests are not requests for type information for an attribute or event. Instead, Carre's client requests a specific service from a particular server.

Carre also fails to disclose sending the request for type information to an object request broker. The Examiner cites Carre's Object Request Broker of FIG. 3a. However, FIG. 3a illustrates a CMISE gateway to aid communication between objects by converting ASN types to a corresponding IDL types. FIG. 3a does not illustrate a client *sending a request for type information to an object request broker*. As noted above, clients of Carre's system send specific request messages to Object Request Brokers that include an operation, a target object, one or more parameters, and, optionally, a request context. Neither clients nor any other entities in Carre's send requests for type information to object request brokers.

In the Response to Arguments, the Examiner again cites fig. 3a of Carre, but also cites column 5, lines 39-65 and column 6, lines 1 – 35. At column 5, lines 39- 65, Carre describes that the interface unit GDMO/IDL "translates the OSI objects OM and OA of the components from GDMO to IDL". Carre teaches that an "object so specified can be accessed by classic CORBA messages." This section of Carre has no relevance to a client sending *a request for type information* to an object request broker.

The Examiner's other citation (column 6, lines 1 – 35) describes the steps involved in the address-type conversion used in Carre's system. Specifically, Carre describes how the ASN type of an OSI address value is converted to a correspondent IDL type that is structured to contain and transport both the CMIS/OSI full distinguished name and the CORBA object reference. However, as noted above, the mere fact that Carre's system includes converting address types as part of communication between CORBA entities and OSI entities does not disclose or anticipate the specific limitation of sending a request for type information to an object request broker.

Carre further fails to disclose a metadata gateway receiving the request for type information from the object request broker. The Examiner cites the CMISE Gateway of FIG. 3a and column 5, lines 39-65. However, the cited passage does not mention anything about a metadata gateway receiving a request for type information from an object request broker. FIG. 3a also fails to show anything about a metadata gateway receiving a request for type information. Carre teaches that by converting objects from the ASN.1 specification to the IDL specification CMISE operations can be performed on CORBA objects, and vice versa (column 5, lines 24-39 and lines 60-65) but fails to teach anything about a metadata gateway receiving *a request for type information from an object request broker*. Applicants note that the Examiner has failed to respond to this argument in the Response to Arguments.

Carre additionally does not disclose reading the type information from a metadata repository, wherein the type information is stored *in a database format* in the metadata repository. The Examiner cites CMISE/IDL FIG. 3. However, the cited CMISE/IDL is not a metadata repository from which type information is read. In response, the Examiner refers to "using CMISE/IDL fig. 3 as a metadata repository to manage/store the OSI objects translated from type conversion" and also cites column 6, lines 1 – 35 of Carre. Column 6, lines 1 – 35 describe the conversion of ASN types to a correspondent IDL type. However, Carre teaches that the CMISE/IDL is an "interface unit" that contains the "CMISE object and the services assigned to this object". Carre also teaches that the CMISE object is specified by an IDL interface and acts, and thus appears, like a CORBA object (Carre, column 5, lines 21-39). Thus, the CMISE/IDL cited by the Examiner is a communication interface that allows non-CORBA objects to be interacted with via standard CORBA interfaces. The CMISE/IDL interface unit is clearly not a metadata repository. Moreover, Applicants' claim specifically recites that type information is stored *in a database format* in the metadata repository. Carre's gateway does not store type information in a database format and thus cannot be considered the metadata repository of Applicants' claim.

Carre also fails to disclose the client receiving the translated type information for the attribute or event through the object request broker. The Examiner cites column 6, lines 10-35 of Carre. However, this portion of Carre does not describe a client receiving the translated type information for the attribute or event through the object request broker. Instead, as noted above, the cited passage is part of a description of converting objects from ASN to IDL and vice versa as well as caching of converting object instances. As described above, converting CMISE and CORBA objects is not the same as client generating a request to type information, and receiving the translated type information for the attribute or event through an object request broker. The Examiner's cited passage makes no mention of any client receiving translated type information for an attribute or event through an object request broker.

The Examiner asserts in the Response to Arguments, "Applicants clearly have still failed to identify specific claim limitations that would define clearly patentable distinction over prior art." However, as discussed above, Carre fails to disclose the specific claim limitations of a client generating a request for type information for an attribute or event, sending the request for type information to an object request broker, a metadata gateway receiving the request for type information from the object request broker, reading the type information from a metadata repository, and the client receiving the translated type information for the attribute or event through the object request broker. Thus, the Examiner statement regarding Applicants not identifying specific claim limitations is clearly incorrect.

Anticipation requires the presence in a single prior art reference disclosure of each and every limitation of the claimed invention, arranged as in the claim. M.P.E.P 2131; *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984). The **identical** invention must be shown in as complete detail as is contained in the claims. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). As discussed above, Carre fails to disclose a client generating a request for type information for an attribute or event, a metadata gateway receiving the request for type information from an object request broker, reading the type information from a metadata repository, and the client receiving translated type information for the attribute or event through an object request broker. Therefore, for numerous reasons, Carre clearly cannot be said to anticipate claim 1. Similar remarks as those above regarding claim 1 also apply to claim 22.

Regarding claim 10, **Carre fails to disclose a client generating a request to encode type information for an object, attribute, or event**. The Examiner cites the Abstract, FIG. 2A and 2B as well as column 3, lines 18-55 and column 5, lines 4-38. The Examiner also specifically refers to Agent 1 of FIG. 3a, equating Agent 1 to the client of claim 10. However, Carre does not, either at the Examiner's cited passages or elsewhere, describe Agent 1 or any other client, generating a request *to encode type information* for an object, attribute, or event. As noted above regarding the rejection of claim 1, Carre is concerned with providing interface and address type conversions to allow objects specified according to different specification languages, such as ASN and IDL, to communicate and interact with each other by providing interfaces that allow non-CORBA objects to appear as CORBA objects to the outside world. Clients in Carre's system do not generate requests to encode

type information for objects, attributes or events. Instead, client objects in Carre's system invoke, via a standard CORBA interface, services provided by server objects. (Carre, column 1, lines 9-19; column 1, line 59-column 2, line 46; column 5, lines 49-59). Nowhere does Carre mention a client generating a request to encode type information for an object attribute or event.

In the Response to Arguments, the Examiner again refers to Carre's teachings regarding type translation, citing column 3, lines 18 – 55 and column 5, lines 20 – 58. However, Carre's address conversion has nothing to with a client *generating a request to encode type information for an object, attribute or event.* Instead, Carre's address type conversion is performed as part of communicating with CMISE object that appear as CORBA objects. Nowhere does Carre mention a client *generating a request to* encode type information. Instead, Carre's interface unit converts object instances and object instance values into an IDL type to allow communication between CORBA objects and CMISE objects.

Additionally, **Carre does not disclose sending the request to an object request broker and a metadata gateway receiving the request to encode type information from the object request broker**. The Examiner cites ORB and CMISE Gateway of FIG. 3a. However, Carre does not describe the ORB of FIG. 3a as receiving a request to encode type information from a client. Nor does Carre describe the CMISE Gateway as receiving the request from the ORB. Instead, Carre teaches object request brokers provide an infrastructure that enables objects to communicate in a distributed environment such that "it makes no difference to" the requesting objects in which computer system or in which form the target object is implemented (Carre, column 3, lines 56-63). Carre also teaches that a requesting object sends a request message to an object request broker and that the object request broker routes the request message to the target object (Carre, column 3, line 64-column 4, line 6). Thus, Carre teaches that object request brokers route request messages from a request object to the target object. Carre does not mention anything about object request brokers receiving requests to encode type information from a client or about a metadata gateway receiving such request from an object request broker.

Carre further fails to disclose storing the type information in a metadata repository, where the type information is stored *in a database format* in the metadata repository. The Examiner cites CMISE/IDL of FIG. 3 and column 6, lines 10-35, specifically referring to Carre's conversion of address types from OSI types. However, the portions of Carre cited by the Examiner refer to the caching of structures, such as object instance values and object reference pairs for addresses already in an entity. Caching of object values and references is not the same as storing type information in a database format in a metadata repository. Additionally, as noted above regarding the rejection of claim 1, the CMISE/IDL interface unit cited by the Examiner is clearly a communication interface that allows non-CORBA objects to be interacted with via standard CORBA interfaces (Carre, column 5, lines 21-39). The CMISE/IDL interface unit is clearly not a metadata repository. Moreover, Carre does not describe or even mention anything regarding storing type information in the CMISE/IDL interface unit.

As discussed above, Carre fails to disclose the specific limitations as arranged in claim 10 and thus Carre fails to anticipate claim 10. Similar remarks as those above regarding claim 10 apply to claim 27 as well.

Regarding claim 14, Carre fails to disclose a metadata repository comprising metadata concerning object classes for a plurality of managed objects, wherein the metadata comprises information expressed in a database format, and wherein the managed objects correspond to managed devices on a network. The Examiner cites CMISE/IDL of FIG. 3a as well as the abstract, FIGs 2A, 3A, column 3, lines 18-55 and column 5, lines 4-38 of Carre. However, as noted above, regarding the rejections of claim 1 and 10, the CMISE/IDL interface unit cited by the Examiner is clearly a communication interface that allows non-CORBA objects to be interacted with via standard CORBA interfaces (Carre, column 5, lines 21-39). **The CMISE/IDL interface unit is clearly not a metadata repository**. Moreover, Carre does not describe or even mention anything regarding storing metadata concerning object classes in the CMISE/IDL interface unit. Nowhere does Carre describe anything about storing metadata concerning object classes in a metadata repository.

Carre also fails to disclose a metadata gateway coupled to the metadata repository and to an object request broker, where the metadata gateway is operable to send and receive metadata from the database, where the metadata gateway provides translation of the metadata to and from the database format and an interface definition language. The Examiner again cites CMISE Gateway of FIG. 3a. However, Carre's CMISE Gateway provides address type conversion between two different object interface specifications, such as between IDL and C++, as illustrated in FIG. 3a. Carre's CMISE gateway is not coupled to a metadata repository. As noted above, the CMISE/IDL interface unit cited by the Examiner is clearly not a metadata repository (and neither is the CMISE/C++ interface unit) and thus the CMISE Gateway is not coupled to metadata repository. Nowhere does Carre describe his CMISE Gateway as being coupled to a metadata repository. Furthermore, Carre's CMISE Gateway is not operable to send and receive metadata. Instead, as shown above, the CMISE Gateway translates object interfaces as expressed via CORBA RPC request messages (Carre, column 3, line 54 – column 4, lines 16; and column 5, line 60 – column 6, line 9).

Additionally, Carre fails to disclose where the metadata gateway provides translation of the metadata to and from the database format and an interface definition language. As noted above, Carre's CMISE Gateway provides address type conversion between two different object interface specifications, such as between IDL and C++, not between a database format and IDL. As noted above regarding the rejection of claim 2, Carre does not mention anything regarding converting metadata to or from a database format. **Applicants note that the Examiner has failed to provide any rebuttal to the above argument.**

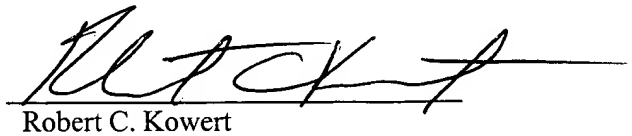
The Examiner's rejection of many of the dependent claims is additionally erroneous. For example, the cited art is clearly insufficient to support the rejection of claims 2,11, 17, 23 and 28 as discussed in detail in Applicants' previous response on pp. 15, 18 and 20 - 21.

In light of the foregoing remarks, Applicants submit the application is in condition for allowance, and notice to that effect is respectfully requested. If any extension of time (under 37 C.F.R. § 1.136) is necessary to prevent the above referenced application from becoming abandoned, Applicants hereby petition for such an extension. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 501505/5181-46200/RCK.

Also enclosed herewith are the following items:

☒ Return Receipt Postcard
☒ Notice of Appeal

Respectfully submitted,



Robert C. Kowert
Reg. No. 39,255
ATTORNEY FOR APPLICANT(S)

Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C.
P.O. Box 398
Austin, TX 78767-0398
Phone: (512) 853-8850

Date: July 18, 2006